

REMARKS

Claims 1-31 are cancelled and new Claims 32-49 are added. Claims 32-49 remain in the application. No new matter is added by the amendments to the claims.

Applicant acknowledges and appreciates the courtesy of the Examiner and her Supervisor in granting Applicant's attorney Michael E. Carmen a telephone interview on February 13, 2006. No agreement was reached during the interview.

The Rejections:

In the Office Action dated October 14, 2005, the Examiner rejected Claims 1, 2, 5-8, 12, 30 and 31 under 35 U.S.C. 103(a) as being unpatentable over Herman (US 4,356,642) in view of Tricca et al. (US 4,574,101).

Regarding Claims 1, 5, 12, 30 and 31, the Examiner stated that Herman discloses a mat for decreasing musculoskeletal fatigue in humans during prolonged static postural stress comprising at least two layers of an air bubble shaped closed cellular material having a flat side and a bubble side (Figs. 2 and 3, elements 2), and one layer of foam (Figs. 2 and 3, element 4) wherein the bubble side of one of the layers of air bubble shaped closed cellular material is positioned to face the bubble side of another of the layers of air bubble shaped closed cellular material. The Examiner admitted, however, that Herman fails to disclose the foam layer consisting of closed cellular polyethylene foam having a density of at least about 1.7 pounds per cubic foot. The Examiner stated that Tricca teaches that it is old and well-known in the art to have the foam core layer in a mat consist of closed cellular polyethylene foam having a density of at least about 1.7 pounds per cubic foot (see col. 2, lines 20-25) for the purpose of providing durability and excellent shock absorbing characteristics.

Regarding Claim 2, the Examiner stated that the air bubble shaped closed cellular material is an anti-static air bubble shaped closed cellular material (Figs. 2 and 3, element 2; also see col. 2, lines 45-50).

Regarding Claim 6, the Examiner noted a base layer including a low tack adhesive bottom surface (Figs. 2 and 3, element 7).

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Regarding Claim 7, the Examiner stated that the base layer comprises polyethylene carrier sheet (Figs. 2 and 3, element 2 or 6) having an upper surface and a lower surface and the low tack adhesive (Figs. 2 and 3, element 7) is carried on the lower surface of the carrier sheet.

Regarding Claim 8, the Examiner noted a removable liner (Figs. 2 and 3, element 6) releasably attached to the lower surface of the low-tack adhesive.

The Examiner rejected Claims 9, 10, 11 and 13-21 under 35 U.S.C. 103(a) as being unpatentable over Herman in view of Tricca and in view of Kolsky (US 5,274,846).

Regarding Claims 9, 13 and 14, the Examiner stated that Herman discloses a mat for decreasing musculoskeletal fatigue in humans during prolonged static postural stress comprising at least two layers of an air bubble shaped closed cellular material having a flat side and a bubble side (Figs. 2 and 3, elements 2), and one layer of foam (Figs. 2 and 3, element 4) wherein the bubble side of one of the layers of air bubble shaped closed cellular material is positioned to face the bubble side of another of the layers of air bubble shaped closed cellular material. The Examiner admitted, however, that Herman fails to disclose the foam layer consisting of closed cellular polyethylene foam. The Examiner stated that Tricca teaches that it is old and well-known in the art to have the foam core layer in a mat consist of closed cellular polyethylene foam (see col. 2, lines 20-25) for the purpose of providing durability and excellent shock absorbing characteristics. The Examiner admitted that, furthermore, Herman fails to disclose a cover layer of anti-static closed cellular polypropylene foam material. The Examiner stated that Kolsky teaches that it is old and well-known in the art to have an outer foam layer of an anti-static closed cell polypropylene (see col. 4, lines 30-41) for the purpose of providing better support and better energy absorption.

Regarding Claims 10, 15 and 16, the Examiner noted that in Herman the layers are adhered together and a laminating adhesive is placed between the layers to adhere the layers together (Figs. 2 and 3, element 5).

Regarding Claim 17, the Examiner noted that in Herman a low-tack adhesive layer under the first layer (Figs. 2 and 3, element 7).

Regarding Claim 18, the Examiner noted that in Herman the low tack adhesive layer (Figs. 2 and 3, element 7) comprises an upper polyethylene carrier sheet facing the first layer

(Figs. 2 and 3, element 2), a low-tack adhesive carried on the bottom side of the carrier sheet and a removable liner releasably attached to the adhesive (Figs. 2 and 3, element 6).

Regarding Claim 19, the Examiner noted that in Herman a laminated adhesive (Figs. 2 and 3, element 5) interposed between the carrier sheet and the first layer to adhere the adhesive layer to the first layer.

Regarding Claim 11, the Examiner admitted that Herman further fails to disclose the bubble layers and the foam layer being dimensioned to provide the mat with a truncated pyramidal shape. According to the Examiner, normally, it is to be expected that a change in shape would be an unpatentable modification, but under some circumstances, however, changes such as shape may impart patentability to a product if the particular shape claimed produces a new and unexpected result which is different in kind and not merely in degree from the results of the prior art. MPEP 2144.04 IV (B). Therefore, according to the Examiner it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the dimensions of the bubble layers and the foam layer in Herman to provide the mat with a truncated pyramidal shape.

Regarding Claims 20 and 21, the Examiner admitted that Herman also fails to disclose the length and width of the first layer being less than the respective length and width of the low-tack adhesive layer, the length and width of the second layer being less than the respective length and width of the first layer, the length and width of the third layer being less than the respective length and width of the second layer and the length and width of the fourth layer is equal to or greater than the respective length and width of the low-tack adhesive layer in order to provide the mat with a truncated pyramidal shape. The Examiner stated that it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the dimensions of the bubble layers, the foam layers and adhesive layer in Herman to provide the mat with a truncated pyramidal shape.

The Cited References:

Herman shows a footwear innersole having opposed air cushion layers or sheets of air pockets 1 entrapped between flexible plastic film 2. The air cushion sheets are laminated to opposite sides of a sheet 4 of flexible, easily compressible, open-cell foam.

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Tricca et al. shows an exercise mat 10 having an outer layer 12 of high density closed-cell foam, a thicker core layer 14 of relatively low density closed-cell foam, and a third layer or skin 16 similar to the outer layer 12.

Kolsky shows a cushion with improved shock-absorbing characteristics including layers 10 and 14 of polymeric open or closed cell foam on top of a sheet 18 having fluid-filled chambers 20.

The Response:

Applicant has rewritten the subject matter of cancelled Claims 1, 2 and 5-12 as new Claims 32-49.

New independent Claims 32, 41 and 47 define:

a pair of bubble layers of an air bubble shaped closed cellular material, each said bubble layer having a flat side and a bubble side;

an intermediate layer of a closed cellular foam material wherein said bubble sides of said bubble layers are positioned to face opposite sides of said intermediate layer;

a base layer including a low-tack adhesive bottom or lower surface; and

a cover layer of anti-static closed cellular polypropylene foam material wherein said bubble layers and said intermediate layer are positioned between said base layer and said cover layer.

Herman shows a footwear innersole having opposed air cushion layers or sheets of air pockets 1 entrapped between flexible plastic film 2. The air cushion sheets are laminated to opposite sides of a sheet 4 of flexible, easily compressible, open-cell foam. The innersole is completed by protective sheathing 6 with Kraft board used on the sole-side and cloth on the foot-side. Thus, Herman does not provide either the claimed "base layer including a low-tack adhesive bottom or lower surface" or the claimed "cover layer of anti-static closed cellular polypropylene foam material".

Tricca et al. shows an exercise mat 10 having outer layers 12 and 14 of high density closed-cell foam such as polyethylene. Thus, Tricca et al. does not provide the missing elements.

Kolsky shows foam layers 10 or 14 of a closed cell polypropylene material used with a sheet 18 having fluid-filled chambers 20. Thus, Kolsky does not provide the claimed "base layer

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including a low-tack adhesive bottom or lower surface". Neither Herman nor Kolsky teaches why one would be motivated to replace the Herman cloth layer with a closed cell polypropylene material.

Claims 39, 40, 41 and 49 define the closed cellular polyethylene foam material of the intermediate layer as having a density in a range of 1.7 to 2.2 pounds per cubic foot and/or the polypropylene closed foam material of the cover layer as having a density in a range of 0.5 to 0.7 pounds per cubic foot. Support for these ranges is found in paragraphs 0036 and 0040 of the specification. None of the references show or suggest such ranges. Tricca teaches that it is preferred to use closed cellular polyethylene foam having a density of 2.5 pounds per cubic foot for the core layer and 5.0 pounds per cubic foot for the outer layers (Col. 2, Lines 32-39).

Claims 37, 46 and 48 define the mat as having a beveled perimeter which is not shown in or suggested by the cited art. As stated in paragraph 0016 of the specification, the beveled perimeter reduces the potential tripping hazard.

In view of the amendments to the claims and the above arguments, Applicant believes that the claims of record now define patentable subject matter over the art of record. Accordingly, an early Notice of Allowance is respectfully requested.

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